

[0162] In some embodiments, the method leads to healing of the tissue.

[0163] In some embodiments, skin is protected from free radical damage.

[0164] In some embodiments, the composition supports epidermal cell-cell adhesion.

[0165] In some embodiments, the composition supports a dermal epidermal junction.

[0166] In some embodiments, the composition supports stem cells function and proliferation.

[0167] In some embodiments, the composition supports intercellular communication.

[0168] In some embodiments, the composition supports cellular recycling and protein homeostasis.

[0169] In some embodiments, the composition prevents cellular senescence.

[0170] In some embodiments, the composition supports collagen, elastin and ECM components.

[0171] In some embodiments, the composition supports heparan sulfate and proteoglycans.

[0172] In some embodiments, the composition increases expression of stemness biomarkers.

[0173] In some embodiments, the composition provides comprehensive skin rejuvenation at the epidermis, dermal-epidermal junction and the dermis.

[0174] In some embodiments, application of the composition increases gene expression of proliferation and myofibroblast markers.

[0175] In some embodiments, application of the composition increases expression of stemness biomarkers.

[0176] In some embodiments, application of the composition improves the appearance of fine lines and deep wrinkles.

[0177] Recitation of ranges of values herein is merely intended to serve as a shorthand method of referring individually to each separate value falling within the range. Unless otherwise indicated herein, each individual value is incorporated into the specification as if it were individually recited herein. All methods described herein can be performed in any suitable order unless otherwise indicated herein or otherwise clearly contradicted by context. The use of any and all examples, or exemplary language (e.g., “such as”) provided herein is intended merely to better illuminate the invention and does not pose a limitation on the scope of the invention otherwise claimed. No language in the specification should be construed as indicating any non-claimed element essential to the practice of the invention.

[0178] Groupings of alternative elements or embodiments of the invention disclosed herein are not to be construed as limitations. Each group member may be referred to and claimed individually or in any combination with other members of the group or other elements found herein. It is anticipated that one or more members of a group may be included in, or deleted from, a group for reasons of convenience and/or patentability. When any such inclusion or deletion occurs, the specification is deemed to contain the group as modified thus fulfilling the written description of all Markush groups used in the appended claims.

[0179] Certain embodiments of this invention are described herein, including the best mode known to the inventors for carrying out the invention. Of course, variations on these described embodiments will become apparent to those of ordinary skill in the art upon reading the foregoing description. The inventor expects skilled artisans

to employ such variations as appropriate, and the inventors intend for the invention to be practiced otherwise than specifically described herein. Accordingly, this invention includes all modifications and equivalents of the subject matter recited in the claims appended hereto as permitted by applicable law. Moreover, any combination of the above-described elements in all possible variations thereof is encompassed by the invention unless otherwise indicated herein or otherwise clearly contradicted by context.

[0180] Specific embodiments disclosed herein may be further limited in the claims using consisting of or consisting essentially of language. When used in the claims, whether as filed or added per amendment, the transition term “consisting of” excludes any element, step, or ingredient not specified in the claims. The transition term “consisting essentially of” limits the scope of a claim to the specified materials or steps and those that do not materially affect the basic and novel characteristic(s). Embodiments of the invention so claimed are inherently or expressly described and enabled herein.

[0181] Furthermore, numerous references have been made to patents and printed publications throughout this specification. Each of the above-cited references and printed publications are individually incorporated herein by reference in their entirety.

[0182] It is to be understood that the embodiments of the invention disclosed herein are illustrative of the principles of the present invention. Other modifications that may be employed are within the scope of the invention. Thus, by way of example, but not of limitation, alternative configurations of the present invention may be utilized in accordance with the teachings herein. Accordingly, the present invention is not limited to that precisely as shown and described.

What is claimed is:

1. A composition for repair and regeneration of skin tissue on a subject, the composition comprising;

a conditioned medium collected from culturing human fibroblast cells under hypoxic conditions in a suitable cell culture medium; and

at least one additive;

wherein the conditioned medium is stored in a first container and the additive is stored in a second container, and wherein the conditioned medium and the additive are mixed prior to application to the skin tissue.

2. The composition of claim 1, wherein the first container and the second container are separate chambers in a dual chamber container.

3. The composition of claim 2, wherein the human fibroblast cells are cultured under hypoxic conditions on a substrate grown in a suitable cell culture medium under 1-5% oxygen thereby producing embryo-like properties.

4. The composition of claim 3, wherein the substrate is microcarrier beads or a three-dimensional surface.

5. The composition of claim 2, wherein the composition further comprises at least one botanical or botanical extract.

6. The composition of claim 5, wherein the at least one botanical or botanical extract is present within a range of about 0.5 to about 2.0% by weight of the composition.

7. The composition of claim 2, wherein the composition further comprises at least one peptide.